

# ABSTRACT

This invention relates to mutated CMVpp65, a viral structural protein which activates cell mediated immunity in humans infected with CMV. The mutations remove undesirable protein kinase activity naturally present in the protein and make it suitable for the production of both DNA and protein vaccines. Therefore, the invention provides proteins and DNAs, as well as vaccines comprising the proteins and DNAs, including cellular vaccines and vectors. Other embodiments of the invention relate to methods of enhancing immune response and vaccinating against CMV, including gene therapy methods and vectors.

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